

## CLAIMS

What is claimed is:

- 1 1. A method for verifying shell scripts, the method comprising the computer-  
2 implemented steps of:  
3 prior to executing a shell script,  
4 performing one or more syntactic verification checks on said shell script, wherein  
5 said one or more syntactic verification checks verify conformance of said shell  
6 script to a set of syntactic guidelines;  
7 and,  
8 performing one or more semantic verification checks on said shell script, wherein  
9 said one or more semantic verification checks verify conformance to a set of  
10 semantic guidelines.
- 1 2. The method of claim 1, further comprising the step of:  
2 prior to executing a shell script,  
3 performing one or more coding organizational guideline verification checks,  
4 wherein said guideline verification checks verify conformance of said shell script  
5 to a set of one or more coding organizational guidelines.
- 1 3. The method of Claim 2, further comprising a shell grammar verification mechanism  
2 that is responsive to said shell script, wherein said shell grammar verification

mechanism comprises a plurality of syntactic verification checks which when invoked perform verification of conformance of said shell script to a plurality of syntactic guidelines for said shell script.

4. The method of Claim 1, further comprising a guideline verifier mechanism that is responsive to said shell script, wherein said guideline verifier mechanism comprises a plurality of semantic verification checks which when invoked perform verification of conformance of said shell script to a plurality of accepted semantic guidelines for said shell script.

5. The method of Claim 4, wherein said guideline verifier mechanism performs a plurality of coding organizational guideline verification checks on said shell script for conformance to a plurality of accepted coding organizational guidelines for said shell script.

6. The method of Claim 3, wherein said shell grammar verification mechanism further comprises:

a parser mechanism responsive to said shell script which performs parsing of said shell script;

and

an error routine mechanism responsive to said shell script which performs error detection and identification for said shell script.

1 7. The method of Claim 6, wherein said parser mechanism further comprises:  
2 a plurality of verification checks which when invoked perform a plurality of one or  
3 more verification checks on said shell script in order to verify conformance of  
4 said shell script to a plurality of one or more accepted set of grammar rules for  
5 said shell.

1 8. The method of Claim 6, wherein said error routines mechanism further comprises:  
2 a plurality of error routines responsive to said shell script which when invoked  
3 identify parsing errors and report if parsing has failed in said shell script.

1 9. The parser mechanism of claim 6 wherein:  
2 said parser mechanism performs syntactic verification by breaking a stream of input  
3 characters from said shell script into a plurality of tokens;  
4 and,  
5 said plurality of tokens are further reduced based on a set of grammar rules that are  
6 associated with said shell script.

1 10. The method of claim 6, wherein:  
2 said error routines are invoked when said parser mechanism is unable to reduce said  
3 plurality of tokens as per the said shell script set of grammar rules.

1 11. The method of Claim 4, wherein said guideline verification mechanism further  
2 comprises:

3 a plurality of support functions responsive to shell script which support a plurality of  
4 checks for verification of conformance to a plurality of accepted semantic  
5 guidelines and coding organizational guidelines and standards for said shell  
6 script;

7 and,

8 a plurality of API functions which perform checks for guideline verification by  
9 performing a plurality of checks for verification of conformance to a plurality  
10 of accepted semantic guidelines and coding organizational guidelines and  
11 standards for said shell script.